FILE 'USPATFULL, BABS, CAPLUS, CBNB, CEN, CIN, DKILIT, IFIPAT, JICST-EPLUS, PASCAL, PLASNEWS, PROMT, RAPRA, SCISEARCH, TEXTILETECH, USPAT2, WPIDS, WTEXTILES' ENTERED AT 11:18:00 ON 06 AUG 2002

L1	688154	S	CELLULOSE
L2	18082	S	L1 AND CROSS(W)LINKING
L3	160	S	L2 AND ALKYL(W)CELLULOSE
L4	97	S	L3 AND SALT
L5	11	S	L4 AND CARBOXYL(W)GROUPS
L6	2117	S	ALKYL(W)CELLULOSE
L7	2	S	L6 AND SELF(W)CROSS(W)LINKING

L5 ANSWER 11 OF 11 USPATFULL
AN 84:11616 USPATFULL
TI Photosensitive composition for electrophotography
IN Tarumi, Noriyoshi, Tokyo, Japan
Tamura, Akihiko, Tokyo, Japan
Kokiso, Masakazu, Tokyo, Japan
PA Konishiroku Photo Industry Co., Ltd., Tokyo, Japan (non-U.S. corporation)
PI US 4434218 19840228
AI US 1981-270115 19810603 (6)
RLI Continuation of Ser. No. US 1979-6104, filed on 24 Jan 1979, now abandoned which is a continuation of Ser. No. US 1976-746084, filed on 30 Nov 1976, now abandoned
DT Utility
FS Granted
LN.CNT 755
INCL INCLM: 430/096.000
INCLS: 430/130.000
NCL NCLM: 430/096.000
NCLS: 430/130.000
IC [3]
ICM: G03G005-04
EXF 430/127; 430/96; 430/130
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB A novel photosensitive composition including a photoconductive cadmium sulfide-group compound and a water-soluble prepolymer capable of forming a network structure by **cross-linking**, the composition being applied as a photosensitive layer of a photosensitive article for electrophotography having a conductive substrate.
AB . . . novel photosensitive composition including a photoconductive cadmium sulfide-group compound and a water-soluble prepolymer capable of forming a network structure by **cross-linking**, the composition being applied as a photosensitive layer of a photosensitive article for electrophotography having a conductive substrate.
SUMM . . . of a binder type which includes as a binder resin a water-soluble prepolymer capable of forming a network structure by **cross-linking** and as a photoconductive material a cadmium sulfide or similar inorganic compound (hereinlater referred to as "cadmium sulfide-group compound", which. . .
SUMM . . . cadmium sulfide-group compound and a water-soluble prepolymer (hereinafter referred to merely as prepolymer) capable of forming a network structure by **cross-linking**.
SUMM . . . aqueous composition comprising a photoconductive cadmium sulfide-group compound and a water-soluble prepolymer binder capable of forming a network structure by **cross-linking** is considered to be an epochmaking, novel technique as ever known in the art.
SUMM . . . prepolymers used are relatively low molecular weight compounds and are polymers or copolymers having a number of hydroxyl groups or **carboxyl groups** therein, or the **carboxyl groups** of which are combined with ammonia. With the latter case, the polymers may preferably have a molecular weight below 50,000,. . .
SUMM In case that there is used a prepolymer having **carboxyl groups** or hydroxyl groups, it is preferred that the prepolymer has an acid value of not lower than 20 so as. . .
SUMM . . . resins, epoxy resins, urethane resins and the like. In the practice of the invention, these prepolymers contain a number of **carboxyl groups** or hydroxyl groups in structural units and part of the **carboxyl groups** may be, if desired, combined with ammonium group, to have the above mentioned range of acid- or amine-values and thereby. . .

SUMM . . . as the constituent are those obtained by subjecting phthalic acid and pentaerythritol to a dehydration condensation reaction and combining the **carboxyl groups** with ammonium groups, and having recurring units presumably expressed by the following formula ##STR1## Examples of the alkyd resin prepolymers. . .

SUMM . . . group of the reaction product ##STR5## and further treating with an alkali metal atom or preferably ammonia to form a **salt** for rendering the prepolymers water-soluble. These prepolymers have been also placed on the market and preferable ones are (5) Water. . .

SUMM . . . ##STR8## Further, high molecular weight prepolymers can be obtained by introducing into a polynuclear phenolic resin such as novolac resin, **carboxyl groups** and then methylol groups, and treating with ammonia to form a resin **salt**. Though these prepolymers may be used as a prepolymer binder of the invention, they are preferable to be used as. . .

SUMM . . . by treating alkali celluloses with alkylene oxides and alkyl celluloses obtained by treating alkali celluloses with alkyl halides. These water-soluble **cellulose** derivatives can be readily formed into a network structure by treating them with a **cross-linking** agent such as glyoxal, urea resin prepolymers, melamine resin prepolymers or polybasic acids.

SUMM . . . thereof are homopolymers of acrylic acid or methacrylic acid, copolymers of acrylic acid alkyl esters or methacrylic acid alkyl esters **carboxyl groups** of which are combined with ammonia. Apart from prepolymers derived from monomers of acrylic acid, methacrylic acid and esters thereof,. . .

SUMM . . . with two or more. Aside from the aforementioned prepolymers, natural and synthetic compounds having a number of hydroxyl groups or **carboxyl groups**, other water-soluble compounds and compounds which are rendered water-soluble by formation of salts or copolymerization may be also used in. . .

SUMM . . . prepolymer soluble in water. Upon heating and drying, the basic compounds must be vaporized and set free, thereby producing free **carboxyl groups** and rendering the prepolymer hydrophobic. Examples of such basic compounds include, for example, ammonia, trimethylamine, mono-, di-, triethanol amine, dimethylaminoethanol,. . .

SUMM . . . conductive support may be formed on one surface thereof with an undercoat layer such as of a polymeric quaternary amine **salt**, casein, polyvinyl alcohol, carboxymethyl **cellulose**, hydroxy **cellulose**, **alkyl cellulose**, water-soluble nylon, polyvinyl acetate or the like. The applied photosensitive composition layer is then thermally cured at a temperature in. . .

CLM What is claimed is:

. . . coating of a photosensitive composition comprising an aqueous solution of a water-soluble prepolymer capable of forming a network structure by **cross-linking**, and a photoconductive compound selected from the group consisting of cadmium sulfide, cadmium selenide, cadmium sulfoselenide, zinc sulfide and zinc. . .

. . . resin prepolymer, a phenolic resin prepolymer, an amino resin prepolymer, an epoxy resin prepolymer, an urethane resin prepolymer and a **cellulose** derivative.

4. The article of claim 1 wherein said water-soluble prepolymer is in the form of ammonium **salt**.